



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-831-5508

23 November 1999

Mr. Emil Klawitter, Remedial Project Manager
US Department of the Navy, Northern Division
Code 1811/EK, Mail Stop #82
10 Industrial Highway
Lester, PA 19113-2090

RE: Remedial Investigation Work Plan for IR Site 16
Former Creosote Dip Tank and Fire Fighting Training Area
Naval Construction Battalion Center
Davisville, Rhode Island
Submitted on 5 November 1999, Dated November 1999

Dear Mr. Klawitter;

The Rhode Island Department of Environmental Management, Office of Waste Management (RIDEM) has reviewed the above referenced document and comments are attached.

If you have any questions or require additional information please call me at (401) 222-2797 ext.7138.

Sincerely,

Richard Gottlieb, P.E.
Principal Engineer

cc: W. Angell, OWM DEM
C. Williams, EPA Region 1
H. Cohen, RIEDC
C. Deacutis, OWR DEM

S. Licardi, ToNK
W. Davis, CSO NCBC
J. Shultz, EA Eng.

**RIDEM Comments For:
Remedial Investigation Work Plan of IR Site 16
(Former Creosote Dip Tank and Fire Fighting Training Area)
Naval Construction Battalion Center
Davisville, Rhode Island**

Submitted 5 November 1999, Dated November 1999

1. **Page 1-2, Section 1.1.2, Site 16 (EBS Review Item 28);
Whole Section.**

As noted in the 14 October 1999 response to RIDEM 21 June 1999 comment number 10, the Navy stated they would include a line drawing of the site in this document. This drawing of the site has not been included as of yet.

2. **Page 1-3, Section 1.4, Work Plan Organization;
Bullet 1.**

The qualifications of key personnel are not listed in chapter 1. Please provide.

3. **Page 3-1, Section 3.2, Field program;
Item 1, Seismic Refraction Profiling.**

Please provide a map of the proposed seismic lines.

4. **Page 3-1, Section 3.2, Field Program;
Item 2, Drilling/Installation of Monitoring Wells.**

Please explain why there are no wells in the southeast corner of the site.

5. **Page 3-2, Section 3.2, Field Program.
Item 4, Supplemental Data Collection.**

In the formula to calculate $Q(\text{harbor})$, SA is equal to the surface area of the southern arm of Allen Harbor and the Tidal Range is equal to the average difference between low and high tide estimated from a temporary tide gauge that would be installed at the adjacent marina. Please state how the surface area (SA) would be calculated, i.e. from the high or low tide. With respect to the tides, please state which tide from the moon high tide to the ebb low tide would be used.

In the mass balance equation used to calculate the dilution factor please state if the calculated dilution factors would be summed for all the seeps (it is noted that only two seeps would be sampled for), also state how more than two seeps would be handled should they arise during testing.

**6. Page 3-5, Section 3.3.3, COPC Selection;
Paragraph 1, Sentence 5.**

This sentence notes that if the maximum detected concentration of a carcinogenic chemical exceeds the USEPA Region IX PRG then it will be identified as a COPC. Please be advised that if the sum total of the individual carcinogenic chemicals which do not exceed the PRG, exceed the 10 EE-6 risk range then they must also be carried forth as COPCs. This is in accordance with the Region IX criteria. In addition, the RIDEM Remediation regulations (1996) should also be used where it is more conservative than Region IX criteria. The same criteria also apply to non-carcinogenic chemicals.

With respect to lead, the RIDEM residential criteria of 150 mg/kg is more stringent than the USEPA criteria of 400 mg/kg and therefore should be used.

**7. Page 3-6, Section 3.3.4, Human health Risk Assessment of COPC;
Exposure Assessment.**

Please be advised that the parameters noted in Table 3-5 (Exposure Parameter Values for receptor Populations of Interest, Site 16, NCBC Davisville, RI) for the average exposure conditions do not meet the requirements of the residential scenario as noted in the 1996 RIDEM Site Remediation regulations. Therefore, RIDEM will not be able to accept the results of this analysis. Please change the average exposure conditions to meet RIDEM Site Remediation regulations.

With respect to the reasonable maximum exposure column in Table 3-5 the following needs to be changed to be in compliance with the RIDEM Site Remediation regulations:

- * Future Recreational Users – Soil – Please change 52 days/year to 350 days/year. This will allow for unrestricted use at the site unless the Navy is willing to place a deed restriction on the property limiting the number of days per year the site may be used, in this case 52.
- Future Residents (Adults) – Please change from 150 to 350 days/year the exposure to soil for the same reasons as noted above.
- Future Residents (Children) – Please change from 150 to 350 days/year the exposure to soil for the same reasons as noted above.

**8. Page 3-8, Section 3.3.4, Human Health Risk Assessment of COPC;
Paragraph 1.**

For known or suspected carcinogens, acceptable exposure levels are generally concentration levels that represent an excess upper bound lifetime cancer risk to an individual of between 10 EE-4 and 10 EE-6 .

Please be advised that Rule 8.01(A) of the 1996 Site Remediation regulations states: *The remedial objective for each carcinogenic substance does not exceed a $1 \times 10 \text{ EE-6}$ excess lifetime cancer risk level and the cumulative excess lifetime cancer risk posed by the contaminated site does not exceed $1 \times 10 \text{ EE-5}$.* Please make the appropriate revision to this section of the work plan.

**9. Page 3-8, Section 3.4, Ecological Risk Assessment;
Paragraph 1.**

Protocol should also reflect consideration of and, where applicable, use of Rhode Island water Quality criteria for salt waters since the site is close to Narragansett Bay, specifically Allen Harbor.

**10. Page 3-10, Section 3.4.1.2, Data Gaps;
Paragraph 1, Sentence 1.**

Please state under which definition (EPA, ACOE, RIDEM, etc.) that it was determined that wetlands do not exist on the site. As all these definitions of wetlands may be different the Navy may want to coordinate with RIDEM Wetlands to insure State requirements are met.

**11. Page 3-10, Section 3.4.1.3, Conceptual site Model;
Paragraph 1, Last Sentence.**

This sentence states that potential risk to marine fish and plankton is evaluated by screening against seep water concentrations. In addition, shellfish also need to be evaluated and therefore sediments should be evaluated.

**12. Page 3-12, Section 3.4.2.1, Simplified Conservative Food web Model;
Paragraph 1.**

Please explain why no food web model for fish or shellfish is included since the site is so close to Allen Harbor. There should be at least one fish surrogate (mummichog? bluefish?) and one shellfish species (oyster? quahog?).

**13. Page 3-14, Section 3.4.2.1, Exposure Assessment;
Dose_{food} Equation.**

In the Dose_{food} equation C_f is equal to the concentration of COPC in food which is assumed to be equal to same concentration as is in the soil. Please explain the rationale for this assumption since plants generally take up contaminants and one would expect a higher concentration of COPC in the plant than as is in the soil.

Since there are numerous equations in this work plan it would be helpful they could be numbered to make communications easier when a question arises.

14. Page 4-1, Section 4.3, Drilling and Subsurface Soil Sampling; Paragraph 1.

Please change the reference to Figure 2 to Figure 5 as this Figure does not show boring locations.

15. Page 4-2, Section 4.3, Drilling and Subsurface Soil Sampling; Paragraph 1, (Bullet 1 from preceding page).

Monitoring wells must be in accordance with the Rhode Island Groundwater Regulations. Please include this in the work plan.

16. Page 4-2, Section 4.3.1, Soil Boring and Sampling; Paragraph 1, Sentence 1.

Please note, in the work plan, that investigative derived waste (IDW) will be handled in accordance with RIDEM IDW Policy 95-01.

17. Page 4-2, Section 4.3.1, Soil and Boring Sampling; Paragraph 1, Sentence 3.

This sentence notes that the PID will be calibrated at the beginning of each workday and as required in the field. The PID should also be calibrated at the end of the day to insure the accuracy of the sampling done since the previous calibration.

18. Page 4-3, Section 4.3.1, Soil and Boring Sampling; Item C.

Paragraph 3, of this Section (on Page 4-2) notes that either an 18 or 24 inch sampler will be used. If the 18" sampler is used and advanced 24" then 25% of the soil column will be missed. Revise the work plan to indicate that either the sampler will not be advanced more than 18" or that a 24" sampler will be used.

19. Page 4-3, Section 4.3.1.1, Collection of Soil for Volatile Organic Compound Analysis; Paragraph 1.

Please note in the work plan, that with the exception of IDW for off-site disposal, samples may not be composited. In addition, VOC samples need to be preserved with methanol. Please note this in the work plan as well as testing for SVOC and metals.

**20. Page 4-8, Section 4.4.2.1, Well Riser and Screen;
Paragraph 1, Sentence 1.**

This sentence states that the well riser pipe will be made from Schedule-40 PVC. Since we are dealing with organic solvents, potentially at high concentrations, consideration should be given to the use of stainless steel instead of PVC to eliminate potential chemical interferences.

**21. Page 4-9, Section 4.4.2.2, Filter Pack;
Paragraph 1.**

Filter pack should be sized in accordance with Rhode Island Groundwater Regulations.

**22. Page 4-11, Section 4.6.1, Seep Sampling;
Paragraph 1, Sentence 3.**

This sentence notes that a portion of each aliquot will be field filtered and placed in an appropriate sample container. This procedure will drive off the VOCs. Therefore, the work plan should be modified to reflect that a separate sample will be collected for VOCs which is not filtered. It is assumed the seep samples will be tested for VOC, SVOC, Pesticides, and metals.

**23. Page 4-12, Section 4.6.2.2, Field Analytical Equipment;
Paragraph 2, Sentence 1.**

Instruments should be calibrated at the end of the day to insure proper operation during the afternoon hours. Currently, the work plan calls for calibration at the beginning, before afternoon work, and on an as needed basis. Please revise the work plan to include the end of the day calibration.

**24. Page 4-16, Section 4.9.1, Sample Designation and Labeling;
Item II, Groundwater Samples.**

The letter S or D should appear in the designation for groundwater samples so that one can know whether it was a shallow or deep groundwater sample. Please revise the labeling accordingly.

**25. Page 4-20, Section 4.11, Investigative Derived Waste Handling;
Paragraph 1, Sentences 3 and 4.**

These sentences note that development or purge water will be stored in 200 – 1000 gallon polyethylene tanks adjacent to the well from which it was generated except for wells located in residential property yards and that this investigative derived waste (IDW) will remain there until it is determined how it will be disposed of.

Please state where the liquid IDW will be stored that is obtained from the residential yards if it is not going to be near the wells. In addition, please state what residential yards are located at this site.

This site is located immediately next to a marina which is still in use and public access is not restricted. Rather than leaving the IDW (all types) outside where curiosity can get the better of someone, it is suggested that within 48 hours that generated IDW be placed in a secure location.

26. Page 4-20, Section 4.11.1, Drill Cuttings; Paragraph 1.

Unless drill cuttings are going directly into 55 gallon drum these materials should be placed on a low permeability synthetic sheeting of thickness no less than 10 mils. This is in accordance with RIDEM policy memo 95-1 (Guidelines for the Management of Investigative Derived Waste).

27. General Comment.

Any ecological risk assessment protocols developed for this site should reflect any changes and agreements between RIDEM, USEPA, and the Navy as related to ongoing work at other Navy sites, like Naval Station Newport. Therefore, if this document does not reflect any aspect of protocols presently agreed upon at Naval Station Newport, etc. such changes should be clearly explained with a clear logic as to why they would not apply in this case.

28. General Comment.

Although this is an eco-risk protocol, it should be noted as with other work done on Allen Harbor, consideration needs to be made concerning human health risk exposure to COPCs through fish and shellfish in the area. Some of the previous Allen Harbor work may be useful to address this issue, but it does need to be addressed since this is a new site.

29. General Comment.

For the eco-risk assessment sediment samples need to be collected from each seep location. Please include this in the work plan.